

Trading of ESCerts on Power Exchange India Limited

Workshop on ESCert Trading & PATNet Portal

16th December 2015.

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- ❑ Products at PXIL
- ❑ PXIL- Innovation & Policy Debate
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 - ❖ Trading of ESCerts
 - ❖ Price Discovery*
 - ❖ Contract Specification*
- ❑ Clearing & Settlement
- ❑ Membership at PXIL

*Based on draft regulation

PXIL Promoters and Equity Partners

PROMOTERS

National Stock Exchange
(NSE)

National Commodity and Derivatives Exchange
(NCDEX)

The largest exchanges in India with deep experience in creating vibrant markets

EQUITY PARTNERS

Central Government Entities

State Government Entities

Private Sector Entities

Power Finance Corporation Limited

GUVNL

JSW Energy Limited

MPPMCL

Tata Power Trading Company Limited

WBSEDCL

GMR Energy Limited

An amalgamation for development of a vibrant Power Market

PXIL leverages on:

- ✓ experience of Promoters in running Exchanges
- ✓ experience of State Government entities and
- ✓ the most active Private players in the Country

PXIL - Institutional character

□ Diffused Ownership

- Long term view on market/sector
- Prudent business practices
- Regulatory roles and business demands well balanced

□ Composition

- Promoters -2, Shareholders-3, Independent Directors -4, Executive Directors -2

□ Governance structure

- Board Committees : Audit, remuneration
- Membership Committees (IAC, MRC, MAC)
- Power Market Committees (MSC, RMC,SGF)

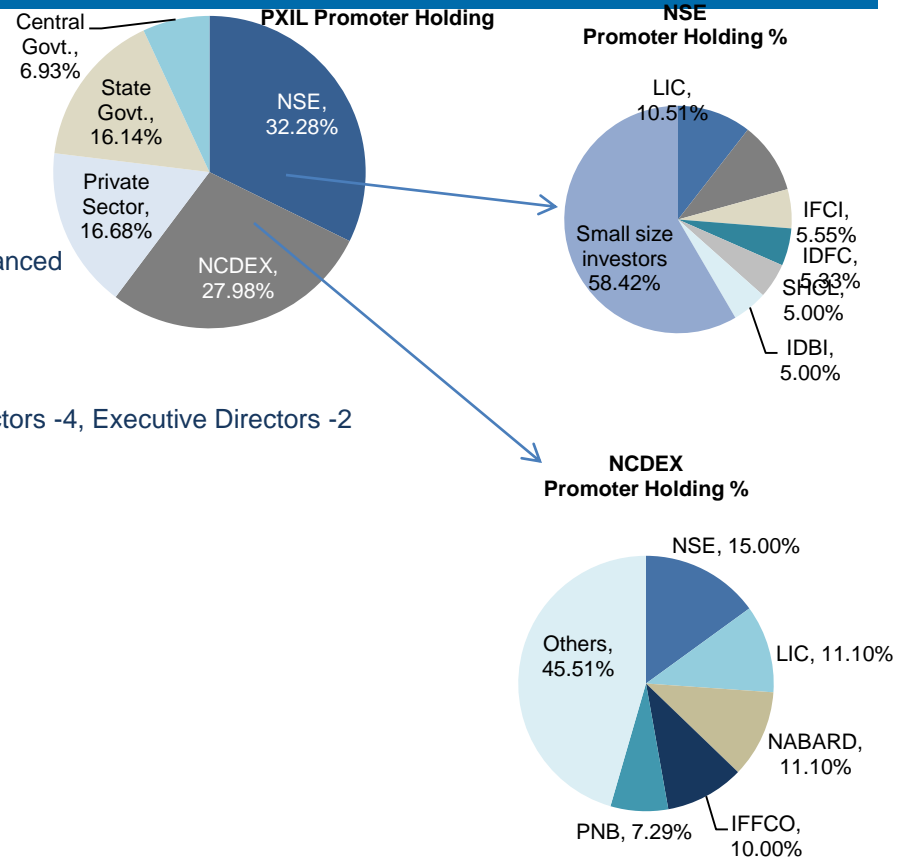
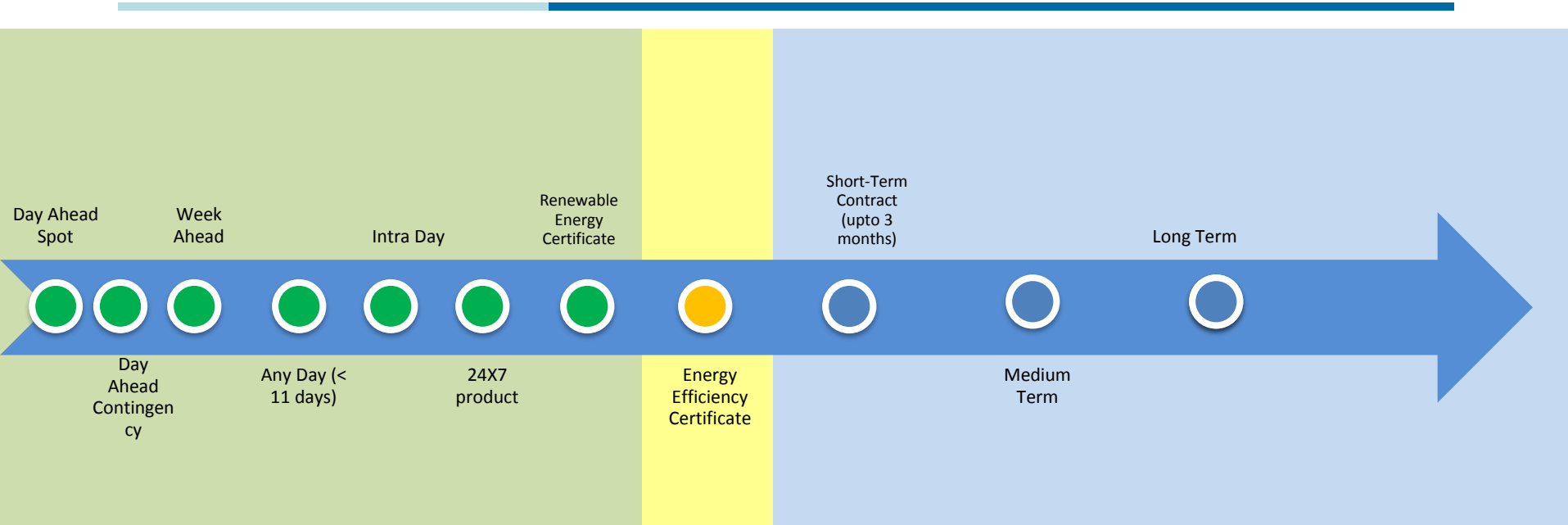


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Product Portfolio-PXIL



 **Approved Products**

 **Soon to be launched- Approval Received**

 **Future Product – After receipt of Regulator Approval**

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Innovation & Policy Debate

Market Penetration

- ▶ First Exchange to introduce internet based trading

Market Players

- ▶ First to propose minimum Bid size of 1 MW to help small generators

PFC Product

- ▶ Got PFC to develop special credit product for financing trade on PXIL

New Products

- ▶ Shaped Policy for REC trading on Power Exchanges
- ▶ Proposed 2 Day Ahead Spot Product

Membership Category

- ▶ Introduced the Advisory Member as a legally accepted category

Policy Debates

- ▶ Prevented premature commencement of trade in Electricity Derivatives in a shallow market
- ▶ Led the initiative for introduction of 15 minute trading block

Development of Markets

- ▶ Methodology for Transmission Allocation
- ▶ Proposed introduction of Exchange Neutral NOC in the Country
- ▶ Socialization of Charges

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Evolution of Power Markets

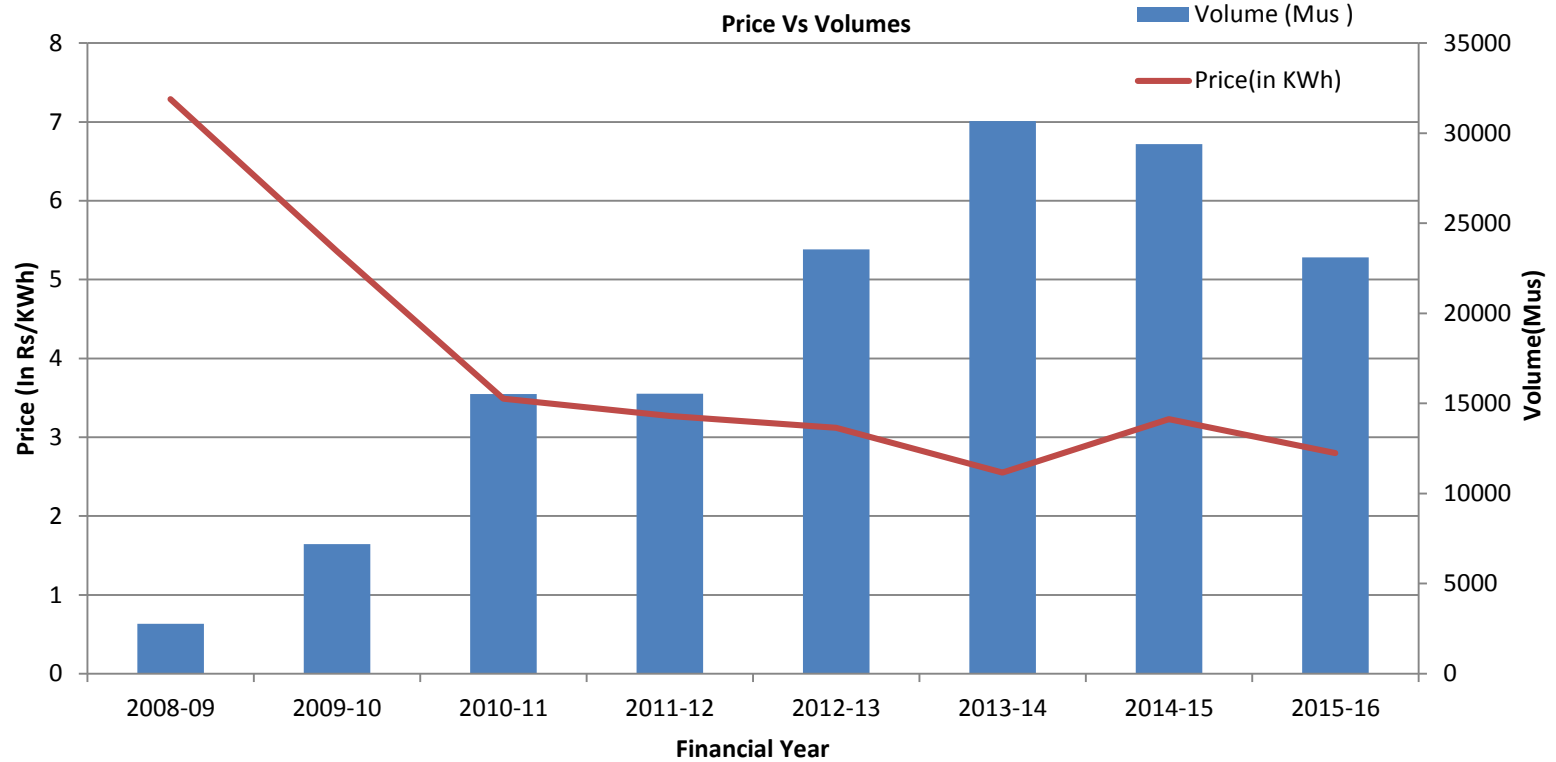


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Perform Achieve and Trade

2010

- PAT – one of the initiatives under NMEEE
- Amendment in Energy Conservation Act, 2001. Provides legal mandate to PAT
- Defines 'Energy Savings Certificate', to be issued by Central Govt. to 'Designated Consumers' whose energy consumption is less than prescribed norms

2012

- Notification of Targets and PAT rules
- Targets to 478 energy-intensive industries from 8 different sectors, reduction in specific energy consumption
- PAT cycle of three years . Cycle 1 – 2012-15

2015

- End of first cycle compliance period 2012-15
- Draft of Escert Trading regulations proposed to CERC
- MOP to issue Certificates , BEE to act as an administrator

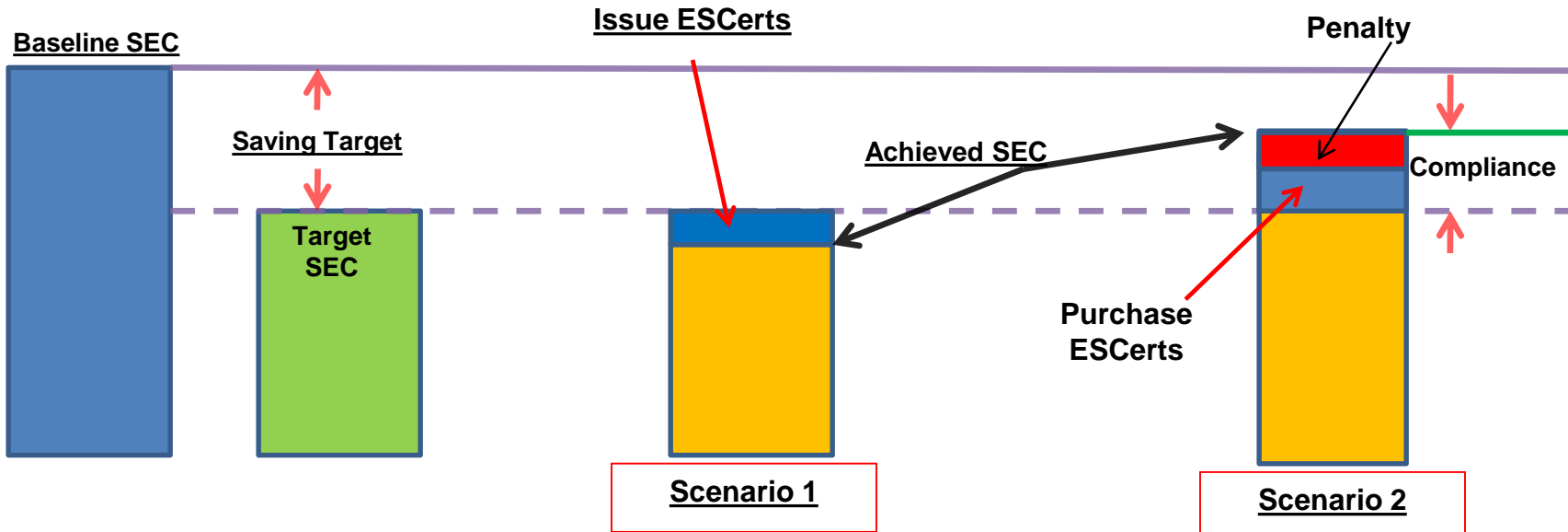
2016

- **TRADING OF ESCerts ON POWER EXCHANGES**

Implementation of PAT

□ Base identification process:

- Cycle : Period of 3years
- First Cycle : FY 12-13 to FY 14-15
- Target SEC (SEC_{target}) : SEC as estimated for FY 2014-15
- Target : % reduction from SEC_{base}



Sellers of ESCerts

- Sellers: Under PAT rule-12(4) , the Designated Consumer who has been issued energy saving certificates may sell them through the Power Exchange



Buyers of ESCerts

- Buyers: Under PAT rules -13(b) , the Designated Consumer shall purchase the energy savings certificates equivalent in full satisfaction of the shortfall in the energy consumption norms and standards worked out in terms of metric ton of oil equivalent



Designated Consumers & Targeted Energy Reduction

S.no	Industry Sector	Benchmark Annual Energy Consumption Norm to be DC (ToE)	No. of Identified Designated Consumers	Annual Energy Consumption (Million ToE)	Share Consumption (%)	Apportioned Energy Reduction For PAT Cycle-1 (Million ToE)
1	Textiles	3000	90	1.2	0.73%	0.066
2	Aluminum	7500	10	7.71	4.67%	0.456
3	Chlor-Alkali	12000	22	0.88	0.53%	0.054
4	Fertilizer	30000	29	8.2	4.97%	0.478
5	Pulp & Paper	30000	31	2.09	1.27%	0.119
6	Iron & Steel	30000	67	25.32	15.35%	1.486
7	Cement	30000	85	15.01	9.10%	0.815
8	Thermal Power Plant	30000	144	104.56	63.38%	3.211
	Total		478	164.97	100%	6.685

- Average reduction target- 4.8%
- ESCerts to be traded on the Power Exchanges

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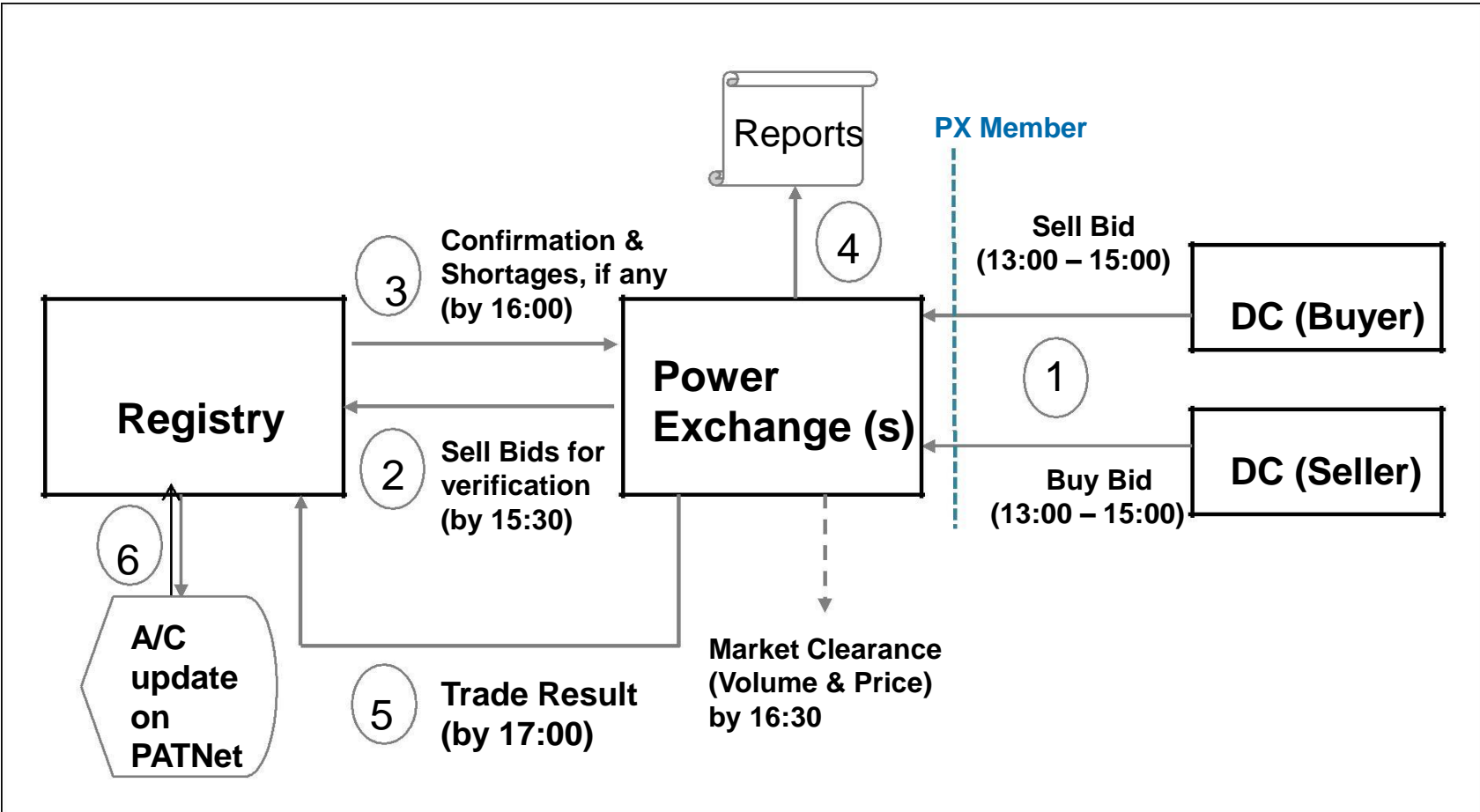


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Existing Matching-REC(AS & AD)

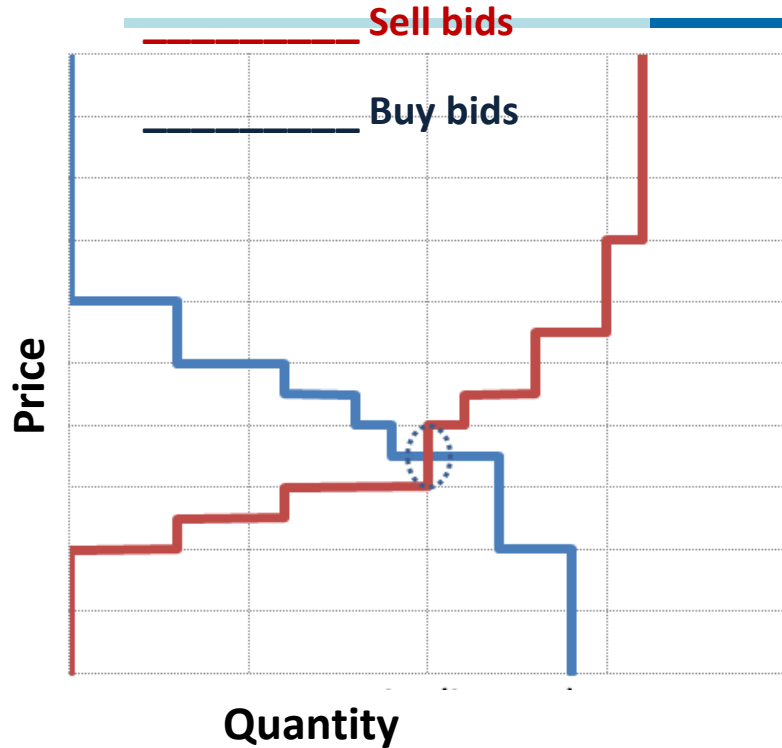
Sellers	Qty (MW)	Price (Rs/Kwh)
S1	50	2.5
S2	150	3
S3	200	4.5
S4	150	5
S5	300	6

Aggregate Supply(AS)
50
200
400
550
850

Buyers	Qty (MW)	Price (Rs/Kwh)
B1	200	5
B2	50	4.5
B3	100	4
B4	200	3
B5	400	2.5

Aggregate Demand(AD)
200
250
350
550
950

Existing Price Discovery-REC



- Closed Double-sided Uniform Price
- All trades are settled at Market Clearing Price(MCP)
- All sell orders at price $<$ MCP will be fully cleared
- All buy orders at price $>$ MCP will be fully cleared
- For Sell/Buy orders at price = MCP;

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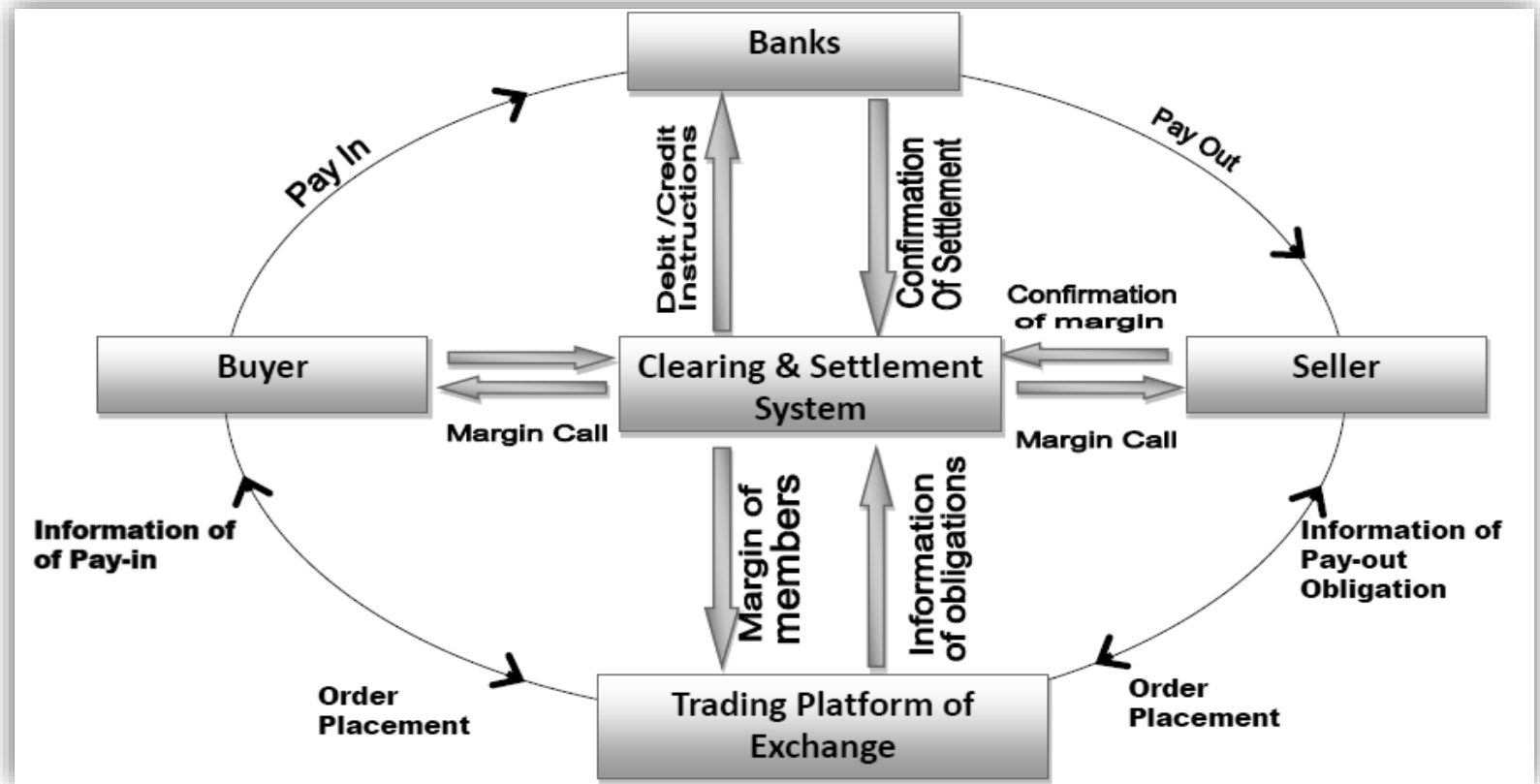
Proposed Contract Specifications

Type of Contracts	Energy Saving Certificates(ESCert)
Price Discovery	Uniform Price -Anonymous Closed bid Double-Sided Auction using step curves
Trading Day	Once /Twice in a month
Auction Timings	13.00 hours to 15.00 hours on the day of Auction or as amended by Exchange from time to time
Margins	100% from Buyers
Minimum Bid Volume	1 ESCert
Minimum Bid Price	To be notified
Maximum Bid Price	To be notified
Minimum Volume Quotation Step	1 ESCert
Minimum Value Quotation Step	Rs. 1 per ESCert
Settlement Price(s)	Market Clearing Price (MCP)

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Clearing & Settlement



Power Exchange – Market Place Functionality

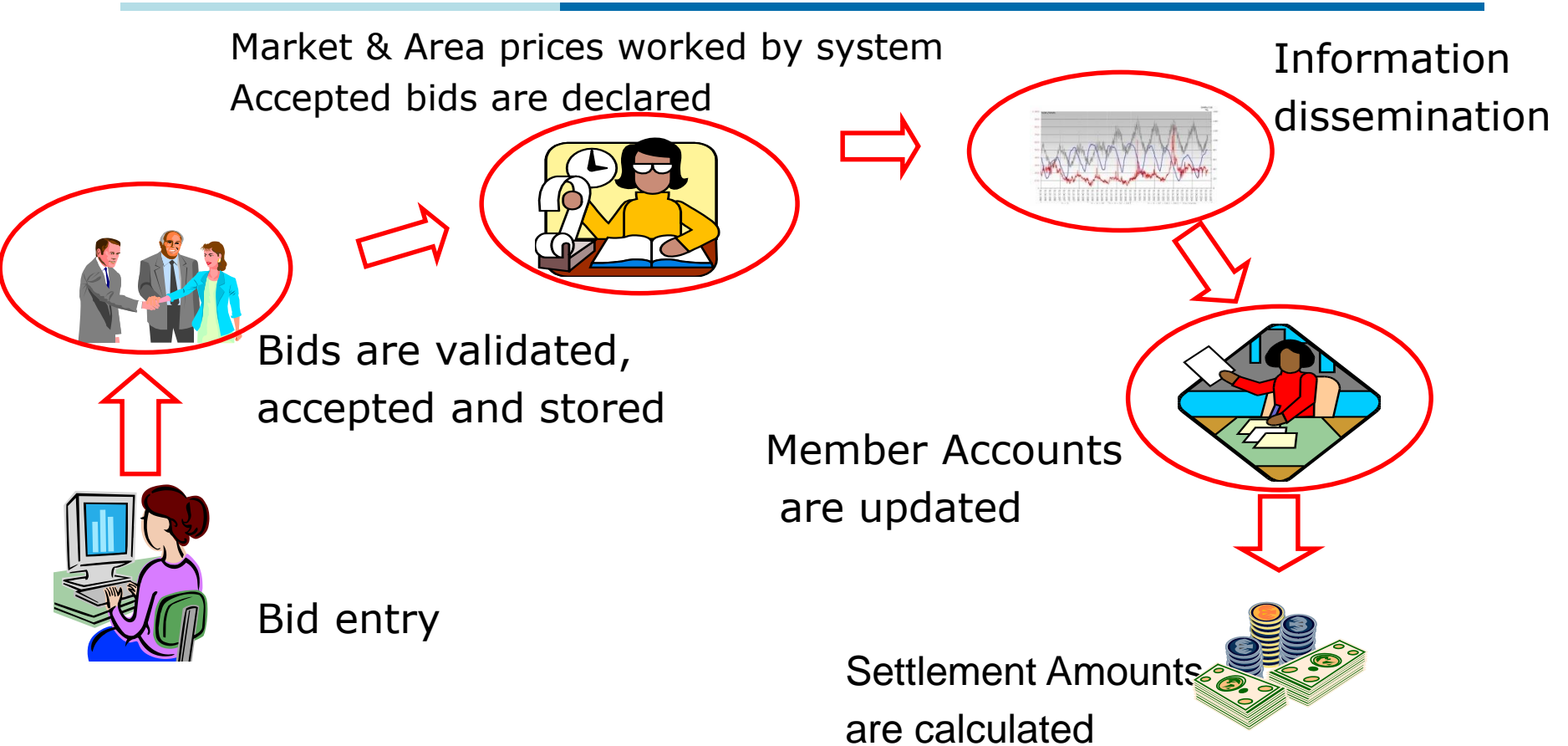
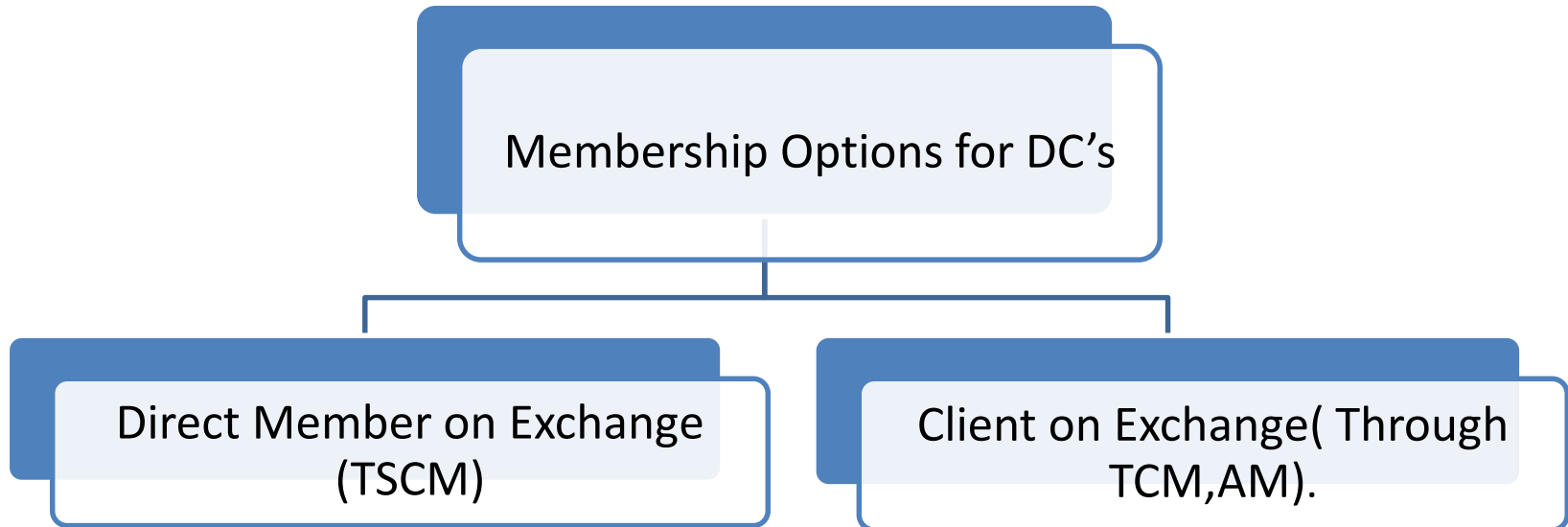


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Membership Options



Thank You
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